

IN THE CLAIMS

The following listing of the claims is provided in accordance with 37 C.F.R.
§1.121:

1. (original) An electronic device comprising:
 - (a) a first electrode;
 - (b) a second electrode that comprises:
 - (1) a first layer comprising at least a halide compound of at least a metal selected from the group consisting of alkali metals and alkaline-earth metals; and
 - (2) a second layer comprising an electrically conducting material; and
 - (c) at least an electronically active material disposed between the first electrode and the second electrode;
- wherein the second layer is disposed between the first layer and the electronically active material of the electronic device.
2. (original) The electronic device according to claim 1, wherein the first layer of the second electrode comprises at least a halide compound of alkali metals.
3. (original) The electronic device according to claim 1, wherein the first layer of the second electrode comprises at least a fluoride compound of alkali metals.
4. (original) The electronic device according to claim 3, wherein the first layer of the second electrode comprises at least a fluoride compound of an alkali metal selected from the group consisting of sodium and potassium.

5. (original) The electronic device according to claim 4, wherein the first layer of the second electrode has a thickness in a range from about 1 nm to about 100 nm.

6. (original) The electronic device according to claim 1, wherein the second layer of the second electrode comprises a material selected from the group consisting of aluminum, silver, gold, tin, calcium, magnesium, yttrium, scandium, elements of lanthanide series, mixtures thereof, and alloys thereof.

7. (original) The electronic device according to claim 1, wherein the second layer of the second electrode comprises aluminum.

8. (original) The electronic device according to claim 7, wherein the second layer of the second electrode has a thickness in a range from about 1 nm to about 40 nm.

9. (original) The electronic device according to claim 1, wherein the first electrode comprises a metal oxide selected from the group consisting of indium tin oxide ("ITO"), tin oxide, indium oxide, zinc oxide, indium zinc oxide, zinc indium tin oxide, antimony oxide, and mixtures thereof.

10. (original) The electronic device according to claim 1, wherein the first electrode comprises at least a metal selected from the group consisting of silver, copper, tungsten, nickel, cobalt, iron, selenium, germanium, gold, platinum, and aluminum.

11. (original) The electronic device according to claim 1, wherein the electronic device is an organic light-emitting device, and the opto-electronically active material is selected from the group consisting of poly(N-vinylcarbazole) ("PVK");

poly(alkylfluorene), poly(praraphenylene), polysilanes, 1,3,5-tris{n-(4-diphenylaminophenyl) phenylamino}benzene, phenylanthracene, tetraarylethene, coumarin, rubrene, tetraphenylbutadiene, anthracene, perylene, coronene, and derivatives thereof.

12. (original) The electronic device according to claim 1, wherein the electronic device is an organic light-emitting device, and the electronically active material is an opto-electronically active material and is selected from the group consisting of aluminum-acetylacetone, gallium- acetylacetone, indium-acetylacetone, aluminum-(picolymethylketone)-bis{2,6-di(t-butyl)phenoxide}, and scandium-(4-methoxy-picolylmethylketone)-bis(acetylacetone).

13. (original) The electronic device according to claim 1, wherein the electronic device is an organic light-emitting device, and the electronically active material is an opto-electronically active material and is selected from the group consisting of tris(8-quinolinolato) aluminum and derivatives thereof.

14. (original) The electronic device according to claim 1, further comprising an additional layer that comprises a substantially transparent, electrically conducting material disposed on the first layer of the second electrode.

15. (original) The electronic device according to claim 14, wherein the second layer of the second electrode comprises aluminum and has a thickness in the range from about 1 nm to about 40 nm, and the additional layer comprises a metal oxide selected from the group consisting of ITO, tin oxide, indium oxide, zinc oxide, indium zinc oxide, zinc indium tin oxide, antimony oxide, and mixtures thereof.

16. (original) The electronic device according to claim 15, wherein the first electrode comprises a metal oxide selected from the group consisting of ITO, tin oxide, indium oxide, zinc oxide, indium zinc oxide, zinc indium tin oxide, antimony oxide, and mixtures thereof.

17. (original) The electronic device according to claim 16, wherein the electronic device is a photovoltaic ("PV") cell, and the electronically active material is a PV material.

18. (previously presented) An light-emitting device comprising:

- (a) a first electrode;
- (b) a second electrode that comprises:
 - (1) a first layer comprising at least a fluoride compound of at least a metal selected from the group consisting of sodium and potassium, the first layer having a thickness in a range from about 1 nm to about 100 nm; and
 - (2) a second layer comprising aluminum and having a thickness in a range from about 1 nm to about 40 nm; and
- (c) an organic light-emitting material disposed between the first electrode and the second electrode, the organic light-emitting material comprising a polyfluorene; wherein the second layer is disposed between the first layer and the organic light-emitting material of the electronic device.

19. (withdrawn) A method of making an electronic device, the method comprises:

- (a) forming a compound electrode, which comprises a first layer comprising at least a halide compound of at least a metal selected from the group consisting of alkali metals and alkaline-earth metals; and a second layer comprising an electrically conducting material;

(b) disposing an electronically active material on the second layer of the compound electrode; and

(c) forming an additional electrode on the electronically active material.

20. (withdrawn) The method according to claim 19, wherein the at least a halide compound is a fluoride compound of an alkali metal.

21. (withdrawn) The method according to claim 19, wherein the second layer of the compound electrode comprises a metal selected from the group consisting of aluminum, silver, gold, tin, calcium, magnesium, yttrium, scandium, elements of lanthanide series, mixtures thereof, and alloys thereof.

22. (withdrawn) The method according to claim 19, wherein said forming the compound electrode comprises depositing an electrically conducting material on the first layer comprising the halide compound.

23. (withdrawn) The method according to claim 21, wherein the step of depositing is carried out by a method selected from the group consisting of physical vapor deposition, chemical vapor deposition, and sputtering.

24. (withdrawn) A method of making an electronic device comprising:

(a) providing a first substrate;

(b) forming a first layer on the first substrate, the first layer comprising at least a halide compound of at least a metal selected from the group consisting of alkali metals and alkaline-earth metals;

(c) forming a second layer on the first layer, the second layer comprising an electrically conducting material;

(d) forming a third layer on the second layer, the third layer comprising an electronically active material; and

(e) forming a fourth layer on the third layer, the fourth layer comprising a substantially transparent, electrically conducting material.

25. (withdrawn) The method according to claim 24, wherein the at least a halide compound is a fluoride compound of an alkali metal.

26. (withdrawn) The method according to claim 24, wherein the second layer comprises a metal selected from the group consisting of aluminum, silver, gold, tin, mixtures thereof, and alloys thereof.

27. (withdrawn) The method according to claim 24, wherein the first layer and the second layer are formed by a method selected from the group consisting of physical vapor deposition, chemical vapor deposition, and sputtering.

28. (withdrawn) The method according to claim 24, wherein the third layer is formed by a method selected from the group consisting of spin coating, spray coating, dip coating, roller coating, physical vapor deposition, and ink-jet printing.

29. (withdrawn) A method of making an electronic device comprising:
(a) forming a first article, said forming the first article comprising: (1) providing a first substrate; (2) forming a first layer on the first substrate, the first layer comprising at least a halide compound of at least a metal selected from the group consisting of alkali metals and alkaline-earth metals; (3) forming a second layer on the first layer, the second layer comprising an electrically conducting material; and (4) forming a third layer on the second layer, the third layer comprising an electronically active material;

(b) forming a second article, said forming the second article comprising (1) providing a second substrate; and (2) forming a fourth layer on the second substrate, the fourth layer comprising a substantially transparent, electrically conducting material; and:

(c) laminating together the first article and the second article such that the fourth layer is disposed adjacent to the third layer..

30. (withdrawn) The method according to claim 29, wherein the step of laminating comprises applying pressure to the first article and the second article.

31. (withdrawn) The method according to claim 29, wherein the step of laminating comprises applying heat to the first article and the second article.

32. (withdrawn) A method of making an electronic device comprising:
(a) forming a first article, said forming the first article comprising: (1) providing a first substrate; (2) forming a first layer on the first substrate, the first layer comprising at least a halide compound of at least a metal selected from the group consisting of alkali metals and alkaline-earth metals; (3) forming a second layer on the first layer, the second layer comprising an electrically conducting material;

(b) forming a second article, said forming the second article comprising: (1) providing a second substrate; and (2) forming a fourth layer on the second substrate, the fourth layer comprising a substantially transparent, electrically conducting material; and (3) forming a third layer on the second layer, the third layer comprising an electronically active material; and

(c) laminating together the first article and the second article such that the second layer is disposed adjacent to the third layer.

33. (withdrawn) The method according to claim 32, wherein the step of laminating comprises applying pressure to the first article and the second article.

34. (withdrawn) The method according to claim 32, wherein the step of laminating comprises applying heat to the first article and the second article.

35. (withdrawn) A method of making an electronic device comprising:
- (a) forming a first article, said forming the first article comprising: (1) providing a first substrate; (2) forming a first layer on the first substrate, the first layer comprising at least a halide compound of at least a metal selected from the group consisting of alkali metals and alkaline-earth metals; (3) forming a second layer on the first layer, the second layer comprising an electrically conducting material; and (4) forming a protective layer on the second layer, the protective layer comprising a material that is capable of being removed to expose the second layer;
 - (b) removing the protective layer to expose the second layer,
 - (c) forming a third layer on the second layer, the third layer comprising an electronically active material; and
 - (d) forming a fourth layer on the third layer, the fourth layer comprising a substantially transparent, electrically conducting material.

36. (withdrawn) The method according to claim 35, wherein said removing is carried out by a method selected from the group consisting of heating and laser ablation.

37. (original) A compound electrode comprising:
- (a) a first layer comprising at least a halide compound of at least a metal selected from the group consisting of alkali metals and alkaline-earth metals; and
 - (b) a second layer comprising an electrically conducting material; wherein the second layer is in contact with an electronically active material.

38. (original) The compound electrode according to claim 37, wherein the first layer of the compound electrode comprises at least a halide compound of alkali metals.

39. (original) The compound electrode according to claim 37, wherein the first layer of the compound electrode comprises at least a fluoride compound of alkali metals.

40. (original) The compound electrode according to claim 37, wherein the first layer of the compound electrode comprises at least a fluoride compound of an alkali metal selected from the group consisting of sodium and potassium.

41. (original) The compound electrode according to claim 40, wherein the first layer of the compound electrode has a thickness in a range from about 1 nm to about 100 nm.

42. (original) The compound electrode according to claim 37, wherein the second layer of the compound electrode comprises a metal selected from the group consisting of aluminum, silver, gold, tin, calcium, magnesium, yttrium, scandium, elements of lanthanide series, mixtures thereof, and alloys thereof.

43. (original) The compound electrode according to claim 37, wherein the second layer of the compound electrode comprises aluminum.

44. (original) The compound electrode according to claim 43, wherein the second layer of the compound electrode comprises aluminum and has a thickness in a range from about 1 nm to about 40 nm.